DRAFT ENVIRONMENTAL ASSESSMENT

UNIVERSITY OF SOUTHERN MISSISSIPPI MARINE EDUCATION CENTER PROJECT

PREPARED FOR:

U.S. Department of Homeland Security
FEMA-1604-DR-MS
Mississippi Recovery Office – Biloxi, MS

PREPARED BY:

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Acronyms and Abbreviations

ABFE	Advisory Base Flood Elevation
ACHP	Advisory Council on Historic Preservation
amsl	above mean sea level
BMP	Best Management Practice
BFE	Base Flood Elevation
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CRA	cultural resources assessment
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
MDAH	Mississippi Department of Archives and History
MDEQ	Mississippi Department of Environmental Quality
MDMR	Mississippi Department of Marine Resources
MEC	Marine Education Center
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OSHA	Occupational Safety and Health Administration
Pb	Lead
$PM_{2.5}$	particulate matter less than 2.5 microns
PM_{10}	particulate mater less than 10 microns
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compound

1.0 INTRODUCTION

Hurricane Katrina made landfall on the southeastern coast of Louisiana and the southwestern coast of Mississippi on August 29, 2005, with maximum sustained winds of 140 mph. Coastal storm surge flooding of 20 to 30 feet above normal tide levels, along with large and dangerous battering waves, occurred near and to the east of where the center of the storm made landfall. Widespread damage occurred, including beach erosion and damage and/or destruction of homes and infrastructure. A Presidential Disaster Declaration, FEMA-1604-DR-MS, was subsequently signed for Hurricane Katrina, making 81 Mississippi counties (including Jackson County) eligible for Federal Emergency Management Agency (FEMA) Public Assistance.

The University of Southern Mississippi (USM) has submitted a request for funding under FEMA's Public Assistance program being administered in response to FEMA-1604-DR-MS. The funding would be used to construct a new Marine Education Center at the USM teaching site at Cedar Point, in Ocean Springs.

In accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 93-288, as amended and implementing regulations at 44 Code of Federal Regulations (CFR) Part 206, FEMA is required to review the environmental effects of the proposed action prior to making a funding decision. This environmental assessment (EA) has been prepared in accordance with FEMA's National Environmental Policy Act (NEPA) regulations contained in 44 CFR Part 10.

2.0 PURPOSE AND NEED

Hurricane Katrina's storm surge severely damaged the original Marine Education Center and surrounding area near Cadet Point in Biloxi, MS. The Center was located in a floodplain-designated zone VE and was within the surge inundation zone, receiving up to 25 feet of water. Located within the 100-year floodplain, the original MEC was a total loss as a result of Katrina, thereby meeting FEMA's criteria for demolition and replacement. A new MEC constructed outside the floodplain is required to replace the previous MEC facility lost due to Katrina.

3.0 ALTERNATIVES

This section describes the alternatives that were considered in addressing the purpose and need stated in Section 2 above. Two alternatives were evaluated: the No Action Alternative and the Proposed Action Alternative, construction of the new Marine Education Center.

Alternative 1: No Action

Under the No Action Alternative, the USM would not rebuild a new Marine Education Center.

Alternative 2: Construct the new Marine Education Center (MEC) at Cedar Point (Proposed Action Alternative)

Under the Proposed Action Alternative, the USM proposes to replace the destroyed MEC by constructing a new facility at the USM Cedar Point teaching site located south of Highway 90 in Ocean Springs, Mississippi (see Figure 1, Appendix A). The USM teaching site is bounded to the north by Park Road, to the west by Gollott Road, to the east and to the south by Davis Bayou, and is State-owned property. The Phase I MEC project site consists of approximately 2.9 acres located in Section 34, Township 7 South, Range 8 West, Jackson County, MS, latitude 30.390430 North, longitude 88.780145 West.

The USM proposes to utilize FEMA funds to replace the 36,000 sq ft MEC and to extend the access road to the new MEC in Phase I (Figure 2). Phase II would then be constructed using Coastal Energy Impact Assistance Funds to enhance the new MEC, by constructing an additional 24,000 sq ft building adjacent to the Phase I MEC and a parking area for the new facilities. The project elements are:

Phase I
- Construct a 36,000 sq ft MEC
- Construct walkways, including two foot bridges across wetlands

Phase II
- Construct a 24,000 sq ft MEC addition
- Construct a parking area

The project site is not located in a Special Flood Hazard Area (SFHA) or Coastal Barrier Resources System (RS) (see Figures 3 and 4, respectively). The new facility would be constructed in uplands outside the 100-year floodplain (Zone AE). FEMA Flood Insurance Rate Map (FIRM) Panel 294 (Figure 3) shows the proposed MEC building location is outside the SFHA with a base flood elevation of 16' above mean sea level (amsl). Figure 2 shows the elevation contours at the project site. The new MEC building would be constructed in compliance with the FEMA FIRM Panel 294.

4.0 AFFECTED ENVIRONMENT AND IMPACTS

Table 1 summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts. Following the summary table, any areas where potential impacts were identified will be discussed in greater detail.

Table 1: Summary of Site Reconnaissance Observations

Affected Environment	Impacts	Mitigation
Geology and Soils	No impacts to geology. Short-term impacts to soil during the construction period.	Appropriate Best Management Practices (BMPs), such as installing silt fences and revegetating bare soils immediately upon completion of construction to stabilize soils. No Farmland Conversion Impact Rating Form (AD-1006) is required since the project is located within a designated urbanized area.
Surface Water	Short-term impacts to surface water would occur during the construction period due to soil erosion.	A Stormwater Pollution Prevention Plan (SWPPP) and a National Pollutant Discharge Elimination System (NPDES) permit must be obtained prior to construction; appropriate BMPs, such as installing silt fences and revegetating bare soils, would minimize runoff.
Floodplains	Project site is located above the Special Flood Hazard Area, with base flood elevation of 16 feet amsl.	Finished floor elevation of the proposed structures will be built to at least 16 feet amsl, to comply with Federal floodplain regulations.
Waters of the U.S. Including Wetlands	No waters of the United States or wetlands occur on the proposed project site.	None.
Transportation	Minor short-term increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site.	Construction vehicles and equipment would be stored on-site during project construction; appropriate signage would be posted on affected roadways.

Public Health and Safety	No impacts to public health and safety are anticipated.	All construction activities would be performed using qualified personnel and in accordance with standards specified in Occupational Safety and Health Administration (OSHA) regulations; appropriate signage and barriers would be in place prior to construction activities to alert pedestrians and motorists of project activities.
Hazardous Materials	A Phase I Environmental Site Assessment conducted by Vittor & Associates in May 2010 found no records or evidence of hazardous materials on the proposed project site.	None
Socioeconomic Resources	No adverse socioeconomic impacts are anticipated.	None
Environmental Justice	No disproportionately high or adverse effect on minority or low-income populations is anticipated.	None
Air Quality	Short-term impacts to air quality would occur during the construction period; no adverse long-term impacts are anticipated.	Construction contractors would be required to water down construction areas when necessary; fuel-burning equipment running times would be kept to a minimum; engines would be properly maintained.
Noise	Short-term impacts to noise would occur at the project site during the construction period.	Construction would take place during normal business hours. Equipment would be maintained to meet all local, state, and federal noise regulations.
Biological Resources	There are no ESA listed species or their habitats found on the project site. No critical habitat is present on the project site.	None
Cultural Resources	No properties listed in or eligible for listing in the National Register for Historic Places would be affected by the project.	None

4.1 Geology and Soils

The geology of the project area is a recent coastal alluvial plain of stabilized sand ridge and swale physiography. The uplands at project site have primarily Harleston fine sandy loam soils (Appendix A; Figure 5). These upland soils are moderately well drained, and typically have water table depths of at least two to three feet below the soil surface. Wetland soils in the project area include Handsboro mucky silt loam, which occurs in tidal marsh adjacent to the project site.

The Farmland Protection Policy Act (FPPA) states Federal agencies must "minimize the extent to which Federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses." The proposed MEC construction site is located within the city limits of Ocean Springs, and is not subject to review per the Farmland Protection Policy Act (FPPA) (USDA/NRCS, 2007b). A Farmland Conversion Impact Rating Form (AD-1006) is not required.

No Action Alternative- Under the No Action Alternative, no impacts to geology or soils are anticipated because no construction would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to geology are anticipated; short-term impacts to soils are anticipated during the construction period. Appropriate BMPs would be used, such as installing silt fences and revegetating bare soils immediately upon completion of construction to stabilize soils.

The NRCS was contacted by letter of April 1, 2010, regarding this project (Appendix B). The NRCS responded by letter dated April 30, 2010, confirming that a FPPA determination is not required for the project.

4.2 Floodplains

Executive Order (EO) 11988 (Floodplain Management) requires Federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMS) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP).

The Special Flood Hazard Area (SFHA) is the portion of the floodplain subject to inundation by the base flood and/or flood related erosion hazards. The proposed project does not include any work or development in the 100-year floodplain (Zone AE) (Figures 2 and 3). All finished floor elevations would be above the Base Flood Elevation (BFE). The proposed project is in compliance with Executive Order 11988.

No Action Alternative- Under the No Action Alternative, no impacts to the floodplain would occur because no construction would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, the project would be constructed above the SFHA and BFE. The building would be constructed with a floor elevation of 16' amsl to comply with Federal floodplain regulations.

4.3 Waters of the U.S. Including Wetlands

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or filled material into water of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). The CWA is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States.

Section 404 of the CWA established a program to regulate discharge of dredged and fill material into waters of the United States, including wetlands. Additionally, EO 11990 (Protection of Wetlands) required Federal agencies to avoid, to the extent possible, adverse impacts to wetlands. Section 401 of the CWA established State Certification of water quality. The Mississippi Department of Environmental Quality (MDEQ) manages water quality certification for the State.

Barry A. Vittor & Associates, Inc delineated wetlands on the USM teaching site in December 1999, and reflagged wetland boundaries in 2006 (Figure 6). The dominant wetland types on the Cedar Point property are palustrine drainageways and fringing tidal marsh. Nontidal, palustrine wetlands occur in narrow drainageways that are headwaters for small waterways draining the flat, sandy terrain of the property. These wetlands have trees, shrubs, and emergent vegetation (vegetation that is rooted below water but grows above the surface) including sweetbay (*Magnolia virginiana*), swamp bay (*Persea palustris*), swamp tupelo (*Nyssa biflora*), and cinnamon fern (*Osmunda* cinnamomea). Shoreline tidal marsh includes black needlerush (*Juncus roemerianus*), sawgrass (*Cladium jamaicense*), and salt meadow cordgrass (*Spartina patens*).

The proposed project would avoid direct impacts to adjacent wetlands. The USACE was contacted by letter of April 1, 2010, regarding this project. The USACE responded by email dated May 12, 2010 that the project does not appear to require a Department of the Army permit pursuant to Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. (Appendix B). The proposed project is in compliance with EO 11990.

Surface waters within the proposed project site ultimately drain south toward Davis Bayou via natural topography. Secondary impacts would be avoided through implementation of appropriate best management practices, to avoid sedimentation and pollution from the project site into adjacent wetlands and surface waters. The MDEQ was contacted by letter of April 1, 2010, regarding this project (Appendix B). To date, the MDEQ has not responded regarding Section 401 of the CWA.

4.4 Coastal Resources

The Coastal Zone Management Act (CZMA) enables coastal states, including Mississippi, to designate state coastal zone boundaries and develop coastal management programs to improve protection of sensitive shoreline resources and guide sustainable use of coastal areas. The proposed project site is located within the Mississippi Coastal Zone. The USM teaching site is near the northern boundary of the Marsh Point coastal barrier, which extends to tidal marshes on the north side of Davis Bayou (Figure 4).

No Action Alternative- Under the No Action Alternative, no impacts to waters of the U.S., including wetlands, would occur.

Proposed Action Alternative – No waters of the U.S., including wetlands, occur on the proposed project site. Secondary impacts to wetlands adjacent to the site would be avoided through use of appropriate BMPs during and after construction. Therefore, under the Proposed Action Alternative, no impacts to waters of the U.S., including wetlands, would occur.

The Mississippi Department of Marine Resources (MDMR) is the lead coastal management agency. The MDMR was contacted by letter of April 1, 2010, regarding this project. The MDMR responded by letter dated May 18, 2010, indicating no objections to the project, provided there are no direct or indirect impacts to coastal wetlands and no coastal agency objects to the proposed project (Appendix B).

4.5 Biological Resources

Vegetation

The USM teaching site at Cedar Point is a 224-acre parcel bounded on the east and south by Davis Bayou, on the north and west by the U.S. Park Service's Gulf Island National Seashore Park Headquarters. The project area is located in the Outer Coastal Plain Mixed Forest. The project site is temperate rainforest, also called temperate evergreen or laurel forest, and is typical of this province.

The project vicinity supports a sub-climax pine forest dominated by longleaf pine (*Pinus palustris*), with an association of live oak (*Quercus virginiana*), southern magnolia (*Magnolia grandiflora*), and white oak (*Quercus alba*). Slash pine (*Pinus eliottii*) also occurs in the project area. An understory of yaupon holly (*Ilex vomitoria*), gallberry (*Ilex glabra*), wax myrtle, and saw palmetto is scattered throughout the woodland. The project site mostly supports a mix of hardwoods including live oak, southern magnolia, laurel oak (*Quercus hemisphaerica*), and white oak, and sweet gum (*Liquidambar styraciflua*).

Fauna

The project location is near an urban/suburban setting; therefore, animals present tend to be adapted to constrained habitat in the human environment. Local amphibians include narrow-mouthed toad (*Gastrophyryne carolinensis*), green tree frog (*Hyla cinerea*), squirrel tree frog (*Hyla squirella*) arid southern leopard frog (*Rana utricularis*). Common snakes include speckled kingsnake (*Lampropeltis getula holbrooki*), cottonmouth (*Agkistrodon piscivorus*) and southern black racer (*Coluber constrictor priapus*). Lizards include the green anole (*Anolis carolinensis*), racerunner (*Cnemidophorous sexlineatus*), and ground skink (*Scincella lateralis*). Mammals include evening bat (*Nycticeius humeralis*), seminole bat (*Lasiurus seminolus*), black rat (*Rattus rattus*), Virginia opossum (*Didelphis virginiana*), nine-banded armadillo (*Dasypus novemcinctus*), and raccoon (*Procyon lotor*).

Federal Listed Threatened and Endangered Species

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, the project area was evaluated for the potential occurrences of Federal-listed threatened and endangered species. The U.S. Fish and Wildlife Service (USFWS) lists the following Federally endangered (E) and threatened (T) species for Jackson County. Additional designations are as follows: (P) indicates potential to occur; (C) indicates Candidate, CH indicates listed with critical habitat, and (DPS) indicates Distinct Vertebrate Population.

(source: http://www.fws.gov/mississippiES/endsp.html)

T - Louisiana black bear *Ursus a. luteolus*
TCH -Piping Plover *Charadrius melodus*
T - Gopher tortoise *Gopherus polyphemus*
TCH -Gulf sturgeon *Acipenser oxyrhynchus desotoi*
T - Green turtle *Chelonia mydas*
T - Loggerhead turtle *Caretta caretta*
T - Yellow-blotched map turtle *Graptemys flavimaculata*
E - Mississippi gopher frog *Rana capito sevosa* (DPS)
E - Louisiana quillwort *Isoetes louisianensis*
E- Leatherback turtle *Dermochelys comacea*
E - Kemp's ridley turtle *Lepidochelys kempii*
E - Alabama red-bellied turtle *Psuedemys alabamensis*
E- West Indian manatee *Trichechus manatus*
E - Brown pelican *Pelecanus occidentalis**
ECH -Mississippi sandhill crane *Grus canadensis pulla*
E - Red-cockaded woodpecker *Picoides borealis*
C - Black pine snake *Pituophis melanoleucus* ssp. *lodingi*
C- Pearl darter *Percina aurora* (Pascagoula River System)

* Brown pelican was de-listed on December 17, 2009.

Multiple site inspections for Federal-listed ESA species have been conducted over the last 10 years at the Cedar Point teaching site. Most of the species listed above are unlikely to occur on the site or be affected by the proposed project.

Vittor & Associates surveyed the proposed MEC project site most recently in August 2009. Target species for the site inspection were gopher tortoise (*Gopherus polyphemus*) and red-cockaded woodpecker (RCW) (*Picoides borealis*). A visual inspection was made for tracks, nests, burrows, or sightings of these species, which are protected under the ESA.

No RCW nest trees were found at the proposed project site. Though there are potential nest trees at the Cedar Point teaching site overall, the project site and adjacent area is generally not suitable as foraging habitat for RCW. No evidence of gopher tortoises or their burrows were found at the MEC project site. Significantly, vegetation on the project site lacks the grasses and forbs typically consumed by the tortoises.

There are two known Bald eagle *(Haliaeetus leucocephalus)* nests on the Cedar Point property, but both more than 1,000 feet from the proposed project site. Bald eagle was removed from the listing under the ESA in August 2007, but remains protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA).

No Action Alternative- Under the No Action Alternative, there would be no impacts to biological resources because no construction would occur.

Proposed Action Alternative – The proposed project site is mostly wooded and undeveloped. Impacts to biological resources would consist of tree and shrub clearing and selective thinning. No Federal listed threatened or endangered species were found to occur on the project site.

The USFWS was contacted by letter of April 1, 2010, regarding this project (Appendix B). To date, no response has been received.

4.6 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implemented by 36 CFR Part 800, requires Federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on Federal Projects that will have an effect on historic properties prior to implementation. Historic properties are defined as archeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places (NRHP). If adverse effects on historic, archaeological, or cultural properties are identified, then agencies must attempt to avoid, minimize, or mitigate these impacts to resources considered important in our nation's

history. Federal emergency response actions operate under a programmatic agreement with State Historic Preservation Officers to take into account historic properties when planning and conducting emergency response actions. The Mississippi Department of Archives and History (MDAH) collects, preserves, and provides access to the archival resources of the state, and oversees statewide programs for historic preservation. The designated Tribal Historic Preservation Officer (THPO) must also be consulted, due to the potential for projects occurring on, or affecting historic properties on, their tribal lands.

Mann & Associates performed a cultural resources assessment (CRA) at the Cedar Point teaching site in January 1995. The existing archaeological site files located at the Mississippi Department of History in Jackson were consulted as part of the CRA. No properties listed on or being considered for listing on or determined eligible for the National Register of Historic Places were located within the survey area. In addition to the State File search, a pedestrian survey was conducted within the study area limits. A series of small test pits were excavated for cultural or historic resources, and literature on local culture, history, and archaeology was reviewed.

A previously unidentified archaeological site was located during the course of the survey, and is located near the proposed MEC project site. While it appears that the site is not eligible for the National Register, the CRA concluded that an archaeologist should be present to monitor for subsurface features that may be uncovered during any work in its vicinity.

No Action Alternative- Under the No Action Alternative, no impacts to archaeological or cultural resources are anticipated because no site construction would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to archaeological or cultural resources are anticipated. If archeological artifacts or human remains were to be inadvertently discovered during the construction period, the applicant would stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize further harm to the finds. Work would not proceed until FEMA Historic Preservation staff complete consultation with the MDAH and the THPO.

The MDAH was contacted by letter of April 1, 2010 regarding this project (Appendix B). The MDAH responded by letter dated April 9, 2010, with the determination that no cultural resources are likely to be affected by the proposed project (Appendix B).

The THPO was contacted by letter (via email) of April 1, 2010 regarding this project (Appendix B). To date, no response has been received.

4.7 Transportation

The proposed MEC project site is located south of Highway 90 in Ocean Springs, MS (Figure 1). The USM Cedar Point teaching site is bounded to the north by Park Road, to the west by Gollott Road, and to the east and to the south by Davis Bayou.

No Action Alternative- Under the No Action Alternative, no construction would occur and there would be no impacts to transportation.

Proposed Action Alternative – Under the Proposed Action Alternative, minor short-term impacts to transportation, site access, or traffic levels would occur during the construction period.

Construction will take place during normal business hours. To mitigate potential delays, construction vehicles and equipment would be stored on-site during project construction, appropriate signage would be posed on affected roadways and barriers would be in place prior to construction activities to alert pedestrians and motorists of project activities.

4.8 Hazardous Materials

A Phase I environmental site assessment (ESA) was conducted for the proposed project site in May 2010. The Phase I ESA report is provided under separate cover. The ESA found no evidence of environmental hazards associated with the proposed project site or any adjacent properties. During the ESA investigation, no visual indications of potentially hazardous materials or perceivable signs of hazardous material discharges (e.g., stained soil, stressed vegetation, unusual odors) were observed. A small amount of solid waste (household trash) is present on the subject property. The ESA found no Superfund or NPL sites within a one-mile radius of the project site. The state environmental regulatory agency database did not identify any current leaking underground storage tank facilities located within a 0.5-mile radius of the project site. The state's regulatory file did not indicate the subject property ever having been permitted as a landfill.

4.9 Environmental Justice

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) mandates that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs policies, and activities on minority and low-income populations.

Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number of minority or low-income persons have the potential to be adversely affected by the proposed project.

No Action Alternative- With no project, there would be no disproportionately high or adverse effect on minority or low-income populations.

Proposed Action Alternative – As indicated by the other sections of this environmental assessment, the proposed project would have no significant adverse environmental impacts. Because there are no significant adverse environmental impacts, the proposed project is not expected to cause significant disproportionate adverse environmental impacts on minority and low-income residents of the proposed development, or on minority and low-income people living in the project area. The project is in compliance with EO 12898.

4.10 Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards. The standards have been established in order to protect the public from potentially harmful amounts of pollutants. Under the CAA, the U.S. Environmental Protection Agency (EPA) establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of "sensitive populations, such as people with asthma, children, and older adults." Secondary air quality standards protect public welfare by promoting ecosystems health, and preventing decreased visibility and damage to crops and buildings.

EPA has set national ambient air quality standards (NAAQS) for the following six criteria pollutants; ozone (O_3), particulate matter ($PM_{2.5}$, PM_{10}), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and lead (Pb). The Mississippi Department of Environmental Quality (MDEQ) monitors all of these except lead and carbon monoxide, which were determined by EPA and MDEQ as exempt from the NAAQS in Mississippi. According to MDEQ, the entire state of Mississippi is classified as in attainment with all Federal ambient air quality standards, meaning that criteria air pollutants do not exceed the NAAQS (MDEQ, 2007).

No Action Alternative- Under the No Action Alternative, no impacts to air quality are anticipated since no construction would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, short-term impacts to air quality would occur during the construction period but would not be substantial enough to affect the attainment status of the six priority pollutants. To mitigate short-term impacts to air quality, \construction contractors would be required to water down construction areas when necessary.

Emissions from fuel-burning internal combustion engines (heavy equipment) could temporarily increase the levels of the criteria pollutants, including NO_2, O_3, $PM_{2.5}$ and PM_{10}, as well as non-criteria pollutants such as volatile organic compounds (VOCs). To reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained.

4.11 Noise

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average noise level over a 24-hour period. The DNL descriptor is accepted by Federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines, and those of many other Federal agencies, state that outdoor sound levels in excess of 55 dB DNL are "normally unacceptable" for noise-sensitive land uses such as residences, schools, or hospitals.

No Action Alternative- Under the No Action Alternative, no impacts to noise are anticipated since no construction would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, short-term impacts in noise levels would occur during the construction period. To reduce noise levels during that period, construction activities would take place during normal business hours. Equipment and machinery installed at the proposed site would meet all local, state and Federal noise regulations.

5.0 CUMULATIVE IMPACTS

According to the Council on Environmental Quality (CEQ) regulations, cumulative impacts represent the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7)." In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action Alternative and other actions occurring or proposed in the vicinity of the proposed project site.

The City of Ocean Springs and the entire Mississippi Gulf coast continue recovery efforts after the extensive property damage caused by Hurricane Katrina. The recovery efforts in Ocean Springs include reconstruction of infrastructure, commercial and municipal buildings, and homes. These projects in combination with the proposed project may have a cumulative temporary impact on air quality and surface water by increasing criteria pollutants and increasing erosion potential during construction activities. No other cumulative effects are anticipated.

6.0 PUBLIC INVOLVEMENT

FEMA is the lead Federal agency for conducting National Environmental Policy Act (NEPA) compliance process for the construction of the proposed new Marine Education Center in Ocean Springs, Mississippi. It is the goal of FEMA to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA provisions.

USM will notify the public of the availability of the Draft EA through publication of a public notice in a local newspaper. FEMA will conduct an expedited public comment period commencing on the initial date of publication of the public notice.

7.0 AGENCY COORDINATION AND PERMITS

The following agencies and organizations were contacted by letter requesting project review during the preparation of this EA:

- U.S. Environmental Protection Agency, Region 4, Water Management Division
- U.S. Fish and Wildlife Service, Jackson Field Office
- U.S. Army Corps of Engineers, Mobile District
- U.S. Department of Agriculture, Natural Resources Conservation Service
- Mississippi Department of Archives and History
- Mississippi Department of Environmental Quality, Office of Pollution Control
- Tribal Historic Preservation Officer, Mississippi Band of Choctaw Indians
- Mississippi Department of Marine Resources, Bureau of Wetlands Permitting
- Mississippi Department of Transportation, Environmental Division
- Mississippi Soil and Water Conservation Commission

In accordance with applicable local, state, and Federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site.

8.0 CONCLUSIONS

No impacts to geology, floodplains, waters of the United States, wetlands, public health and safety, socioeconomic resources, environmental justice, or cultural resources are anticipated with the Proposed Action Alternative.

During the construction period, minor, short-term impacts to soils, transportation, surface water, air quality, and noise are anticipated. All short-term and minor impacts will require conditions to minimize and mitigate impacts to the proposed project site and surrounding areas.

9.0 REFERENCES

Federal Emergency Management Agency (FEMA) FIRM Map Panel 294 (Map Number 28059C0294G) dated March 16, 2009.

Mississippi Department of Environmental Quality (MDEQ), Current Status with Air Quality Standards, 2007. Accessed at: http://www.deq.state.ms.us/MDEQ.nsf/page/Air_AirQualityPlanningandEmissionStandards?OpenDocument

Phase I Environmental Site Assessment of the Gulf Coast Research Laboratory Cedar Point Property, Ocean Springs, Mississippi. Prepared by Barry A. Vittor & Associates, Inc.

United States Department of Agriculture (USDA) Web Soil Survey http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Fish and Wildlife Service, June 2008 list of ESA species by County (source: http://www.fws.gov/mississippiES/endsp.html)

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